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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,201	09/30/2003	Yasuhiko Oosawa	50195-385	9608

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EXAMINER
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ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/673,201

Applicant(s)

OOSAWA ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4 IDS (See item 2)</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 09/30/03, 05/14/04, 02/23/05 and 09/07/05 were considered by the examiner.

### ***Drawings***

3. The drawings were received on 09/30/03. These drawings are acceptable.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Objections***

5. Claim 8 is objected to because of the following informalities: the capital letter in line 2 corresponding to the recitation "A power source having..." should be replaced with a non-capitalized letter. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 1 (lines 5-6) and 8 (line 7) recite the limitation "the bipolar electrodes". There is insufficient antecedent basis for this limitation in the claim. It is noted that claims 1 and 8 only recites "a bipolar electrode", that is, one bipolar electrode.

9. Claim 7 recites the limitation "the insulation films" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is noted that claim 4, from which claim 7 depends, only recite "*a flexible insulation film*".

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rippel 5441824.

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The present invention is geared toward a bipolar battery wherein the disclosed inventive concept comprises the specific collecting foil having an insulation layer thereon.

As to claim 1:

Rippel discloses a bipolar battery (TITLE). Particularly, **Figure 4C** below illustrates the biplate 109, 195 (*the collecting foil*) including positive active material 197 on one side and negative electrode material 199 on other side (COL 13, lines 5-20).

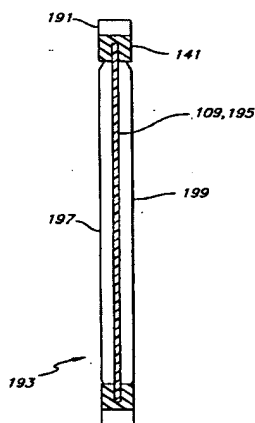
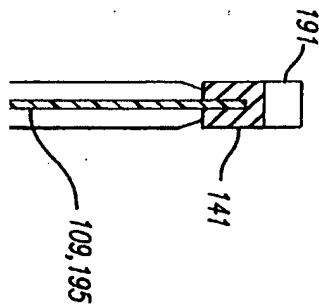


FIG. 4C

The bipolar electrodes are separated by separator 131 (COL 11, lines 25-45/ COL 13, lines 24-35/ See Figure 2). Separator 131 is made of rubber (COL 11, lines 40-45). *It is noted that rubber is a polymeric material.*

As shown in Figure 4C above and its enlarged portion below, biplate 109, 195 has a sealing frame 141 in the form of a layer provided on its periphery (Col 12, lines 50-59/ **Fig. 4C**).



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Concerning claim 2:

It is apparent from **Figure 4C** above that the combination of sealing frame 141 and protruding tab 191 provided on the periphery of the biplate 109,195 protrudes outward beyond the biplate and with a protruding length longer than the thickness of the elements 197, 199 and 109/195 (See FIGURE 4C).

With regards to claims 3 and 5-6:

Sealing frame 141 from molding material 139 is a layer adhered to the biplate (COL 12, lines 29-39 and lines 50-55/ FIGURE 4C). Frame 141 is securely bonded (*adhered*) to the biplate (COL 12, lines 32-35). *Thus, it is adhesive.*

With respect to claim 4:

As to claim 4, the term “*flexible*” is a relative term or term of degree. Accordingly, all materials exhibit flexibility or stiffness irrespectively of its degree.

Regarding claim 7:

Protruding tab 191 represents the adhesive insulation tape further covering the insulation film (the sealing frame 141).

On the matter of claim 8:

Rippel teaches that his bipolar battery provides electric power for high-power applications such as an electric car (COL 1, lines 5-10).

Thus, the claims are anticipated.

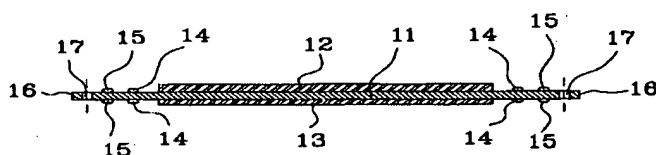
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12. Claims 1-8 is (at least) rejected under 35 U.S.C. 102(e) as being anticipated by Fredriksson et al 2003/0054244.

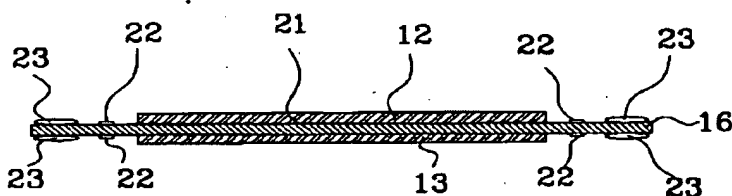
As to claim 1:

Fredriksson et al disclose a bipolar battery (TITLE) comprising biplate 11 or 21; a positive electrode 12; and a negative electrode 13 are attached at each side of the biplate (P. 0045, 0057).

**Figures 2 and 5** below illustrate the biplate assembly:



**Fig. 2 (A-A)**



**Fig. 5 (A-A)**

Fredriksson et al provide electrolyte barriers 14 or 22 (P. 0049, 0057) made of a fluoropolymer material (P. 0059) on the periphery of the biplate 11 or 21 (FIGURES 2 & 5).

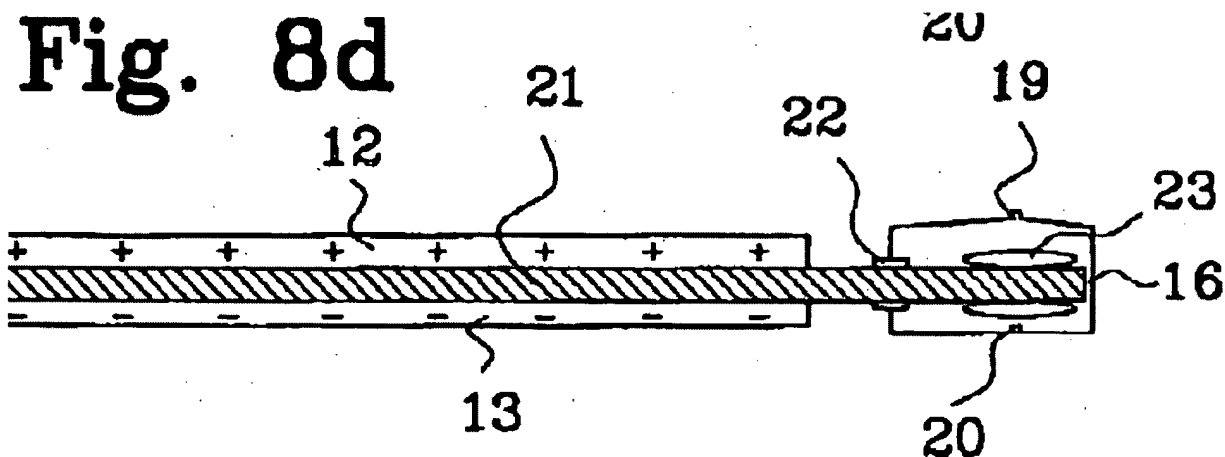
Fredriksson et al also dispose elastomers 15 or 23 (P. 0045, 0057) on the periphery of the biplate 11 or 21 FIGURES 2 & 5). *Thus, electrolyte barriers 14, 22 or elastomers 15, 23, alone or in combination, represents the insulation layer disposed on the periphery of the biplate.*

Disclosed is the use of separator 50, which is arranged between the positive electrode 12a of the first biplate assembly and the negative electrode 13b of the second biplate assembly (P. 0069).

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Concerning claim 2:

Enlarged portion of Figure 8d depicts elements 22, 23 and 19 having a length longer than the combined thickness of positive electrode 12, negative electrode 13 and biplate 21 which stands for a single cell.

With regards to claims 3 and 5-6:

Disclosed is that the electrolyte barrier 14 or 22 is applied to the biplate as a liquid or solid material and then cured in place, which will bond the barrier to the biplate (P. 0049, 0058).

*Thus, it is bonded (adhered) to the biplate; and, therefore, it is adhesive.*

With respect to claim 4:

As to claim 4, the term “flexible” is a relative term or term of degree. Accordingly, all materials exhibit flexibility or stiffness irrespectively of its degree.

As to claim 7:

Reference numerals 19 and 23, the elastomer (P. 0057) and the tongue (P. 0052), see also Figure 8A-8F, covers the end of the biplate and acts as the additional tape material.

As to claim 8:



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Fredriksson et al discloses that the battery is suitable for hybrid vehicle applications (P. 0077).

Thus, at least claim 1 is anticipated.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro  
Primary Examiner  
Art Unit 1745



RAYMOND ALEJANDRO  
PRIMARY EXAMINER